were the ones which had to be rectified by makeshift arrangements at the time, and although our national aptitude rose to the occasion, and we blundered through in our usual manner, yet when time for thought occurred the contrast between our state of unpreparedness and the complete scientific equipment of our enemies was very marked, and gave cause for earnest consideration. The result has been a great increase in the numbers entering our chemical research schools and the consequent output of an increased amount of new knowledge, all of which has to be recorded. The burden of publication has fallen, therefore, heavily on the societies dealing with chemistry, and more particularly on the Chemical Society, which is the chief means by which, through its journal, new knowledge is published to the world.

The remedy is not obvious. The societies can not increase their subscriptions without inviting loss of membership. Neither does it seem that much is to be gained by amalgamation, because each society deals with some branch of chemistry, and there is little or no overlapping or duplication. Amalgamation of the societies would not, therefore, decrease the costs of publication nor materially diminish the subscriptions necessary to meet these costs.

You can not curtail papers beyond the point which enables the work described to be repeated, otherwise publication is valueless. You can not say within wide limits that new knowledge is not worth recording, or that views expressed are best suppressed. The criticism has been raised that the modern tendency to issue short communications at frequent intervals leads to premature publication, and that much that is published has to be corrected in later papers, and it can not be denied that recent experience has shown this criticism to be partly true. But it has been the custom of societies to accept short papers with more avidity than long ones, and in consequence authors have come to realize that the short communication stands more chance of acceptance than longer ones. The policy is in a sense wrong, because a series of short papers on the same subject necessarily leads to redundancy and frequently to a revision of the views expressed in earlier parts as the work progresses. The trouble seems to lie in the custom which requires an introduction to the series, the aim of which is to give the reader who has no interest in the experimental details a readable account of the scope of the work. If this "introduction" were abolished and a "summary and conclusions" placed at the end of the paper or series of papers, it would no doubt crab the literary style of the author and detract from the value of the communication as bedside reading matter, but it would most certainly shorten the paper and would no doubt enhance its value from the scientific standpoint.

When it is remembered that there are some 23,000 scientific periodicals published throughout the world the mind stands appalled at the prospect that will confront civilization even in so short a time as 100 years hence, unless some general method of curtailment is agreed on. The space occupied by our ever-increasing libraries must cause alarm to those who contemplate the possibilities of the future. The agreement between the various societies dealing with chemistry to form a joint library at Burlington House means at the present time an increase of something like 800 volumes yearly—an increase which will augment as time goes on. In the not far distant future the library will occupy the whole of the space available in the society's apartments, and the same problem has to be faced by every other scientific society. Indeed, civilization seems to be confronted with two ever-growing problems—the increase in its cemeteries and its libraries. The former, no doubt, will be solved by cremation. Is it too much to hope that a judicious exercise of this method may also be applied to our libraries?

J. F. THORPE

SCIENTIFIC EVENTS

THE INTERNATIONAL GEOLOGICAL CONGRESS AT MADRID[1]

THE fourteenth session of the International Geological Congress was held in Madrid towards the end of May last. It was presided over by Senor D. César Rubio y Munoz, under the honorary presidency of His Majesty King Alfonso. Senor Rubio is the president of the Board of Mines and was formerly president of the Geological Institute, entrusted with the preparation of the geological map of Spain. His successor, Senor D. Domingo de Orneta, who was to have taken an active part in the meeting, died shortly before it was held.

The Geological Congress is almost the sole survivor of the scientific congresses which formerly played such an important rôle in international scientific comity. It is still open to men of science of all nations, a distinction to which the scientific unions constituted under the International Research Council can lay no claim.

After a preliminary meeting of the government delegates on the previous day, the congress was formally inaugurated by the King on Monday, May 24. The total number of members was more than a thousand. Many of these had already taken part in excursions to the Canary Islands and Morocco, or to Huelva, famous for its cupriferous pyrites, or other places of geological interest in the south of Spain. Toledo, Aranjuez, Almaden with its mines of mercury and

[1] From *Nature*.

the Guadarrama Mountains that separate Old from New Castle were visited during the meeting and afterwards there were other excursions to the Balearic Islands, the potash deposits in Catalonia, the Pyrenees, the important coalfield of Asturias and the iron ores in the neighborhood of Bilbao.

The Spanish government and the municipalities of Madrid and of the towns that were visited in the excursions extended splendid hospitality to the members of the congress. There was a royal reception at the palace, a gala theatrical performance, a municipal garden party and a banquet at which the speeches, twenty-seven in number, commenced with the fish course. This was followed by a charming exhibition of national costumes, dances and singing, in which the performers were all amateurs.

In spite of these attractions, time was found in the different sections of the congress for valuable discussions on matters of current geological interest.

There were a number of contributions on recent physical methods of studying the configuration and economic possibilities of the rocks of particular areas by electric, magnetic and gravimetric methods, and observation of the propagation in the earth's crust of artificially produced

The pyritic deposits of the south of Spain, to which reference has already been made, were the subject of important papers, and the greater part of two days was devoted to the discussion of the question as to whether they were formed by replacement or owed their origin to magmatic or pneumatolytic intrusion or deposition. Considerable attention was also given to the part played by Hercynian and Alpine movements in mountain building, more especially in Spain.

Perhaps, however, what was of the greatest interest to the British representatives was the consideration of questions of African geology in connection with the proposed international geological map of Africa on a scale of one in five million, which was resolved on at the previous congress at Brussels in 1922. A number of representatives of British African surveys were present as well as those of France, Belgium, Spain, Portugal, Italy and Egypt. It was gratifying to note the progress that has been made in the interval. A geological map of the whole of South Africa has been recently published on a scale of one in one million, and one of Egypt on a scale of one in two million and of South-West Africa on the same scale. Maps of the Anglo-Egyptian Sudan and Somaliland on a scale of one in three million, of the Gold Coast on one in one million five hundred thousand and Gambia on one in five hundred thousand and of all the remaining British African colonies or mandated territories, Nigeria, Uganda, Kenya, Tanganyika, Nyasaland, British Bechuanaland and Northern Rhodesia, as well as of Southern Rhodesia, on a scale of one in two million, have been prepared and work on other parts of Africa is well advanced. The map of the whole of Africa on the scale of one in five million will be prepared under the auspices of the Belgian government as soon as all the materials are ready.

Of permanent value as a conspectus of the geology of Spain are the excellent guides, some nineteen in number, to the excursions. Many of them are published not only in Spanish but also in French, English or German, or more than one of these languages. At the same time the municipality of Madrid presented the members of the congress with a well-illustrated volume on the Quaternary rocks of the Manzanares Valley by José Péres de Barradas.

The greatest achievement of the congress, however, was the re-creation among geologists from all parts of the world of the atmosphere of friendliness and cordiality that prevailed in the days, which now seem so remote, "before the war."

THE SECTION OF VOLCANOLOGY OF THE U. S. GEOLOGICAL SURVEY

THERE was established on July 1, 1926, a Section of Volcanology in the Geologic Branch of the survey. Mr. W. C. Mendenhall is chief geologist directing the activities of the Geologic Branch in Washington. Mr. T. A. Jaggar at the Hawaiian Volcano Observatory is volcanologist in charge of the new section. The Section of Volcanology is empowered by act of Congress to operate volcanologic surveys, measurements and observatories in Hawaii, including subordinate stations elsewhere, and to provide and maintain laboratories and quarters for the work, and to print reports.

This establishes a government service for continuous observation of volcanic action in the United States and its dependencies, with headquarters on Kilauea volcano. In immediate effect it enlarges the scope of the Hawaiian observatory so as to create experiment stations to study volcanism in California and Alaska, these making their reports to the Hawaiian headquarters for publication and comparison. Hitherto the Hawaiian station has been the only permanent American volcano observatory.

Lassen National Park, where was staged in 1914–15 an eruption in the northern California mountains at Mount Lassen, and where there were other eruptions from 100 to 250 years ago, has been selected for the second. This second volcano observatory will be in charge of Mr. R. H. Finch, associate volcanologist, who has been first assistant at the Kilauea station since 1919. His task is to establish an earthquake laboratory modeled on the one in Hawaii, equip it